AN ANALYSIS OF COMPOSTING BASED MICROBIAL: GROWTH PARAMETER

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DECLARATION

"I hereby declare that this report is the result of my own except for quotations and summaries which have been dully acknowledged."

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ABSTRACT

In the modern world and sophisticated current technology, composting had been a good ways to decompose solid waste. These solid wastes include food wastes, kitchen wastes and garden wastes. Composed materials can be used as a fertilizer to enhance the growth of plant such as vegetable, flower and event fruits. The purpose of this study is to culture the bacteria and determine which factors that contributes to the growth of microbial composting. In this study, three factors were selected which are temperature, concentration of brown sugar and different nutrients for bacteria. The bacteria that had been used were effective microorganisms (EM) and food waste bacteria. EM's generally are combination of five classes of bacteria meanwhile food waste bacteria is just a newly developed bacteria. Two temperatures were considered in the studies which were 35°C and 45°C and the concentration sugar were 10g, 5g and 1g. The parameters that need to be observed were glucose concentration, pH and cell concentration in order to see the growth profile of each bacterium. Different result had been achieved in different condition, where each bacterium gives a different growth profile. Since brown sugar is one of the sources of sucrose, this had affected the result of glucose consumption as the bacteria tend to break the sucrose formation into glucose and fructose. Most of the bacteria can live in pH neutral at the beginning and become acidic after 24 hours. While the cell concentration increase with time showing rapid increase of the growth of each bacterium.

TABLE OF CONTENT